

MAY 27, 1950
Vol. 112 No. 11

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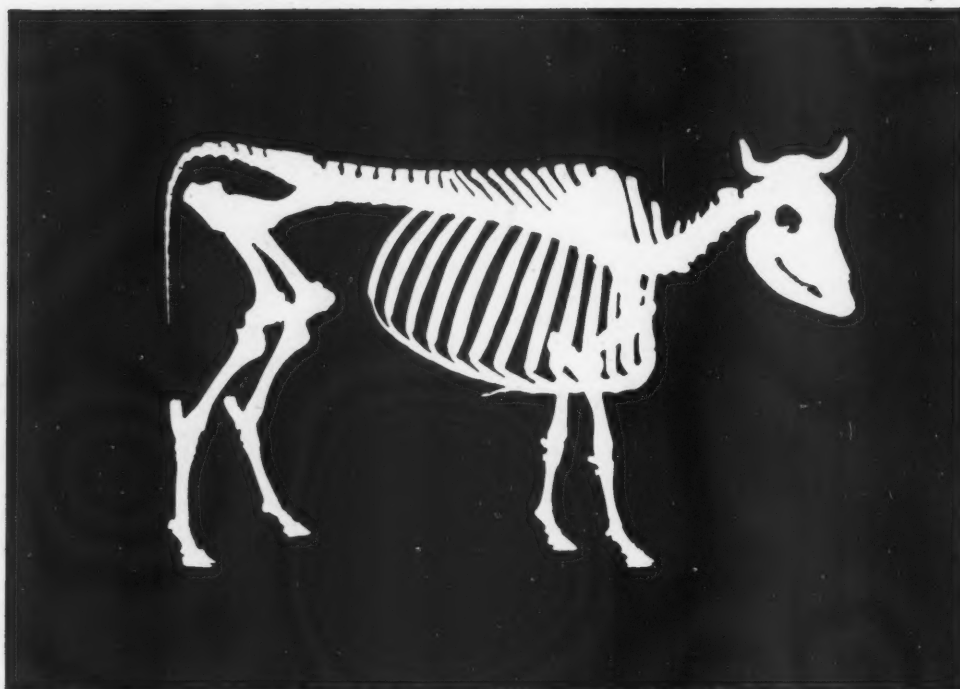
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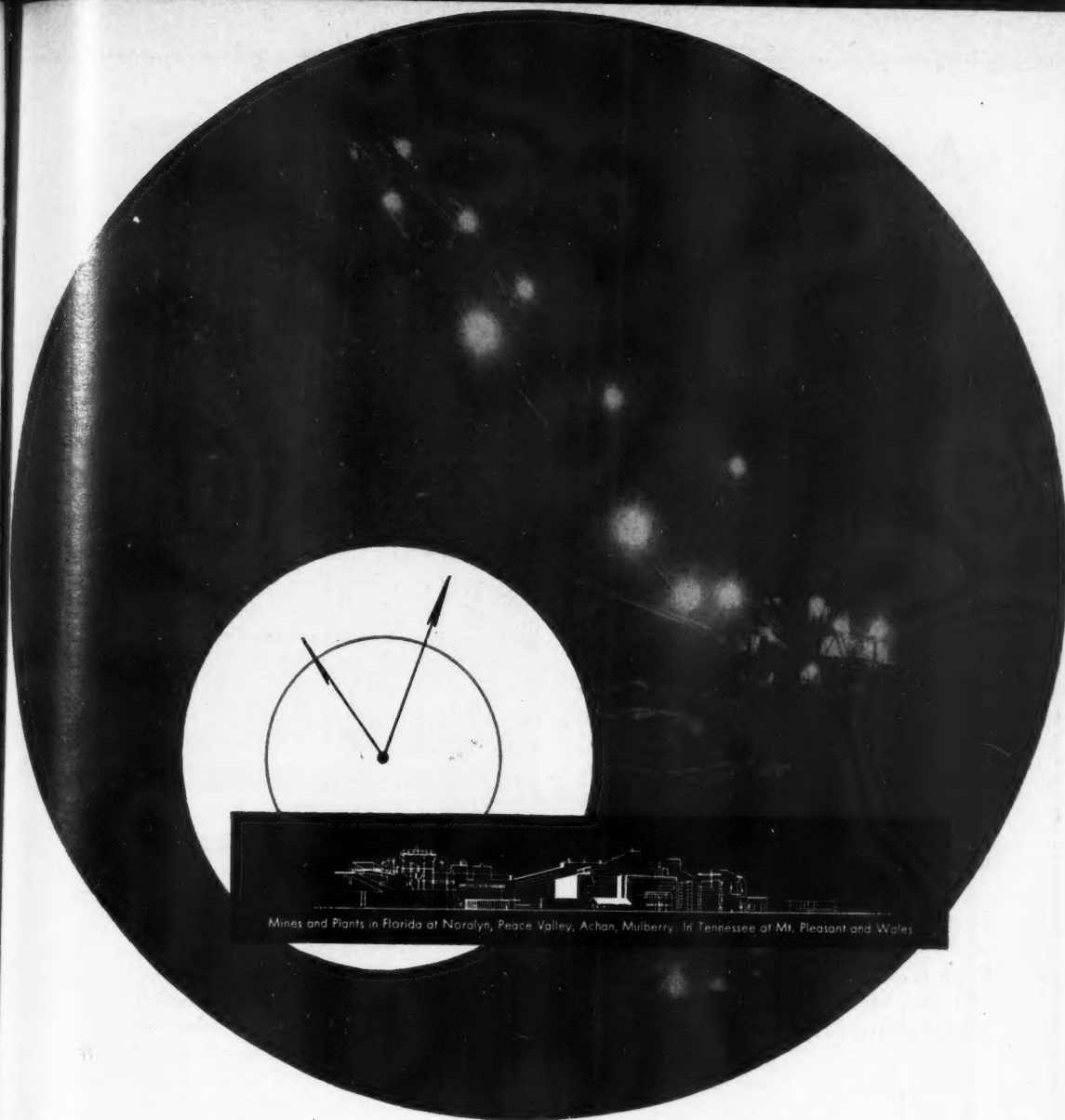
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RICE



Texas and ARKANSAS

RECENT results of rice fertilization tests in Texas and Arkansas should be of interest to AMERICAN FERTILIZER readers.

Fertilizing rice soils with 50 pounds of nitrogen per acre, in some cases plus additional potash, proved an economical and effective way of increasing rice yields in seven Arkansas counties.

The agronomy department of the University of Arkansas College of Agriculture conducted the experiments in 1949 through its Rice Branch Experiment Station. The results show that in each of the outlying tests applications of nitrogen, alone or in combination with other materials, increased yields.

Seven Counties

When the figures from the seven counties were averaged together, the application of 50 pounds of nitrogen, as ammonium nitrate, increased yields 12.1 bushels per acre over the check, returning \$15.01 per acre or \$3.22 for each dollar invested in the fertilizer application. Applying 50 pounds of nitrogen and 50 pounds of potash as muriate of potash increased yields by 17.6 bushels per acre and returned \$20.36 per acre or \$2.80 for each dollar invested. Nitrogen plus phosphate, and nitrogen plus potash and phosphate also increased yields and returned \$1.79 and \$1.70, respectively, per invested dollar.

All of the tests were on land used previously for rice, and in each case

irrigation water came from a well. The returns from the different supplemental treatments varied somewhat from farm to farm. In each case, however, yields were materially increased by the addition of nitrogen to these soils.

Rice fertilizer rate and ratio tests were conducted on the five major soil types in the rice growing region of Texas during the 1947 and 1948 seasons. Results of these tests have been discussed in Progress Reports 1104 and 1144. The work was expanded in 1949 to include an additional soil type—Edna fine sandy loam—which is becoming increasingly important for rice production in the western and southwestern parts of the rice belt. The grayish, poorly drained surface of this soil is underlain at a depth of 6 to 12 inches by a heavy, gray claypan.

Testing in 1949

Each test in 1949 included 16 different combinations and ratios of fertilizers. Nitrogen was applied at rates of 0, 40, 80 and 120 pounds per acre on the clay and clay loam soils and at 0, 20, 40 and 80 pounds per acre on the sandy loam soils. Phosphoric acid and potash were both used at rates of 0 and 40 pounds per acre. All combinations of these rates were applied at the time of planting, and as a topdressing from 4 to 8 weeks after planting.

The best treatment on Beaumont clay was a combination of 80 pounds of nitrogen and 40 pounds of phosphoric acid per acre applied as a

topdressing 62 days after planting. This treatment increased the per acre yield of rice approximately 7 barrels over the unfertilized plots. Potash did not increase the yield.

The best treatment on Lake Charles clay was a combination of 80 pounds of nitrogen and 40 pounds of phosphoric acid per acre applied at the time of planting. It gave an increase in yield per acre of approximately 8 barrels over the untreated plots.

Variable Response

The response to fertilizers on this soil type have been somewhat variable. In some cases only nitrogen was needed, while in others both nitrogen and phosphoric acid appeared to be needed. In many cases, the application of both nitrogen and phosphate at the time of planting, has stimulated weed and grass growth and produced less rice than has nitrogen used alone.

Results of tests on Edna loam showed that a combination of 80 pounds of nitrogen and 40 pounds of phosphoric acid per acre was the best fertilizer treatment for this soil. This treatment gave an average increase per acre of approximately 9 barrels over the unfertilized rice.

In the Hockley loam experiment, a combination topdressing of 80 pounds of nitrogen and 40 pounds of phosphoric acid per acre gave the highest yield. It is doubtful, however, that this yield was sufficiently greater than that obtained from the

use of 40 pounds of nitrogen and 40 pounds of phosphoric acid applied on the same date to justify the heavier rate of nitrogen.

The use of phosphate at the time of planting stimulated the growth of grass.

Two experiments were planted on Katy loam. The more mature plots (those receiving phosphoric acid and not more than 40 pounds per acre of nitrogen) were severely damaged by storms. The plots with the rankest growth (usually those receiving 80 pounds of nitrogen per acre) were damaged while still immature. Since all of the plots were not damaged to the same extent or in the same way, it is rather difficult to draw conclusions on the first experiment.

Second Experiment

The data from the second experiment showed the best fertilizer combination was a topdressing of 80 pounds of nitrogen and 40 pounds of phosphoric acid per acre. However, this test was damaged by birds. The plots receiving 40 pounds of phosphoric acid per acre and not more than 40 pounds of nitrogen matured several days earlier than the others, and were damaged more severely by the birds. This may account, in part, for the lower yield of the combination of 40 pounds per acre each of nitrogen and phosphoric acid. Results of tests of former years indicate that 40 pounds of nitrogen per acre are sufficient for rice on this soil.

In this test, potash, with both nitrogen and phosphoric acid, gave additional increases in yield. Further work is needed before definite recommendations can be made for this soil type.

TEXAS TESTS . . .

A large part of the rice crop in Texas is topdressed with fertilizers. Some of this is applied on flooded fields; in other cases the soil is either wet or dry. Tests have been conducted by the Rice-Pasture Experiment Station to determine which of these practices will produce the most satisfactory results.

This work has been conducted on Beaumont clay soil at the Beaumont station. The fertilizer was applied as a topdressing to dry, wet and flooded soils when the rice plants were from 6 to 9 weeks old. The irrigation water was applied as soon as possible after fertilization on the dry and wet soil plots, and was applied before fertilization on the flooded soil plots.

1946 - 1948 Tests

Both sulphate of ammonia and cyanamid were used in the 1946-48 tests. In the 1949 experiment, only sulphate of ammonia was used and at rates to supply 60, 80 and 100 pounds of nitrogen per acre (300, 400 and 500 pounds of sulphate of ammonia). Unfertilized plots were included in all tests to get a measure of the response to the fertilizer treatments.

Both sulphate of ammonia and cyanamid increased the yields under all conditions. These increases, however, were greater when these materials were applied on the dry soil. Sulphate of ammonia increased the yield 7.54 barrels per acre when applied on dry soil, 6.04 barrels on wet soil and 1.76 barrels when applied to a flooded field. Cyanamid gave increases of 6.64, 5.63 and 1.58 barrels per acre, respectively, for the dry, wet and flooded soils.

Interesting?

The results obtained from varying rates of sulphate of ammonia used in 1949 are interesting. The application of 60 pounds of nitrogen on dry soil produced as much rice as 100 pounds applied to a flooded field. All treatments made on dry soil also produced better results than the ones made on either wet soil or flooded fields regardless of the amount of nitrogen used. However, this difference in yield decreased as the rate of nitrogen was increased. Sixty pounds of nitrogen per acre applied on dry soil produced 3.29 barrels more rice per acre than the same amount of nitrogen applied to the flooded soil. The difference in yield between the dry and flooded soils was only 2.46 barrels per acre when the nitrogen was increased to 80 pounds, and only 2.01 barrels at the 100-pound rate.

Paragraphics:

A new ammoniating plant of the Sunland Industries is now in operation at Fresno, California. G. F. McLeod, Sunland's technical vice-president, states that the company is ammoniating normal and concentrated superphosphate, fairly granular with minimum dust.

* * * *

A schedule for the 1950 spring and early summer soil experiment meetings of the University of Illinois has been announced by the agronomy department. These meetings will take place through July 7. Details regarding these meetings can be secured either from NFA headquarters or from A. L. Lang of the University's Department of Agronomy at Urbana, Illinois.

AMERICAN FERTILIZER

GENERAL RECOMMENDATIONS

Phosphoric acid, in combination with nitrogen, should be applied at the time of planting on clean land for early-maturing varieties, and should be applied about 35 days after planting late-maturing varieties.

If the land is weedy and grassy, the phosphoric acid should not be applied at the time of planting for any variety, but should be delayed approximately 35 days.

The use of phosphoric acid alone

is not recommended for rice on any of these soils.

Specific Recommendations: For Beaumont and Lake Charles clays, Lake Charles clay loam and Edna fine sandy loam: 80 pounds of nitrogen and 40 pounds of phosphoric acid per acre should be applied to rice on these soils.

For Katy and Hockley fine sandy loams: 40 pounds of nitrogen and 40 pounds of phosphoric acid per acre should be applied to rice on these soils.

IF.A.

Centennial Convention

JUNE 12-14

at White Sulphur, W. Va.

THE HONORABLE Allen Joseph Ellender, senior Democratic Senator in the United States Congress from Louisiana and a leading member of the Committee on Agriculture as well as of the Committee on Appropriations, will speak at the Association's June convention at White Sulphur Springs, W. Va., June 12-14. His subject: "Government's Role in Agriculture."

Thumb-nail Sketch

Since taking his seat in 1943, Senator Ellender has been an outspoken and influential member of that body. Prior to that time he served with distinction in Louisiana politics. After being admitted to the bar, the held posts as city attorney in his home town of Houma, as district attorney of Terrebonne Parish, as delegate to the Louisiana Constitutional convention in 1921, and as member of the State House of Representatives, in which body he served as floor leader and as speaker.

Other Speakers

Other speakers previously announced in the *News* include: Paul D. Sanders, editor, *Southern Planter*; Robert M. Salter, chief, Bureau of Plant Industry, Soils and Agricultural Engineering, U. S. Department of Agriculture; and Ralph Robey, chief economist, National Association of Manufacturers. The Plant Food Research Com-

mittee of the Association will present a panel on "A Century of Progress in Compounding and Utilizing Fertilizers," with the following among those who will participate: H. B. Siems, director of research, Plant Food Division, Swift & Company; S. D. Gray, northeast man-

ager, American Potash Institute; H. H. Tucker, president, Coke Oven Ammonia Research Bureau; K. D. Jacob, head, Division of Fertilizer and Agricultural Lime, Bureau of Plant Industry, Soils and Agricultural Engineering, U. S. Department of Agriculture; and

Calendar of Events . . .

Members' Golf Tournaments—Monday, Tuesday, Wednesday
Veterans' Golf Tournament—Tuesday
Guests' Golf Tournament—Tuesday
Ladies' Golf Tournament, 18 holes—Tuesday (Tee off 10 a.m.)
Ladies' Putting, Golfers—Monday, 10 a.m.
Ladies' Putting, Non-Golfers—Monday, 3 p.m.
Horseshoe Pitching—Monday and Tuesday
Men's Tennis—Monday, Tuesday, Wednesday
Ladies' Tennis—Monday, Tuesday, Wednesday
Ladies' Bridge and Canasta—Tuesday and Wednesday, 2 p.m.



←
**Russell
Coleman
president
NFA**



→
**Ray King
chairman of
the Board
of Directors
of NFA**

Vincent Sauchelli, director, Agricultural Research, Davison Chemical Corporation.

Annual addresses will be delivered by Ray King, chairman of the Board of Directors of NFA, and by Russell Coleman, president. The centennial banquet, followed by an entertainment program, will be held on Tuesday, June 13.

On Monday, June 12, meetings have been scheduled of the Board of Directors, the Plant Food Research Committee and other committees of the Association.

Convention COMMITTEES Announced

MEN'S HOSPITALITY COMMITTEE

Chairman: C. R. Martin, The Miami Fertilizer Co., Xenia, Ohio; Albert B. Baker, Jr., Bradley & Baker, New York, N. Y.; J. E. Barnes, United States Potash Co., New York, N. Y.; Richard E. Bennett, Farm Fertilizers, Inc., South Omaha, Nebr.; Roy F. Camp, Chilean Nitrate Sales Corp., New York, N. Y.; J. H. Daughtridge, E. I. du Pont de Nemours & Co., Wilmington, Del.; Norman H. Eason, Lion Oil Co., El Dorado, Ark.; W. B. Howe, French Potash & Import Co., New York, N. Y.; E. M. Kolb, American Potash & Chemical Corp., New York, N. Y.; R. D. Martenet, E. Rauh & Sons Fertilizer Co., Indianapolis, Ind.; J.

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List of

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York, N. Y.; International Minerals & Chemical Corporation, (Phosphate Rock Division), Chicago, Ill.; Interantional Minerals & Chemical Corporation, (Potash Division), Chicago, Ill.; International Paper Company, New York, N. Y.; Kraft Bag Corporation, New York, N. Y.; Lion Oil Company, El Dorado, Ark.; Mathieson Chemical Corporation, Baltimore, Md.; Mente & Company, Savannah, Ga.; Nicolay Titlestad Corporation, New York, N. Y.; Potash Company of America, New York, N. Y.; Phillips Chemical Company, Bartlesville, Okla.; St. Regis Sales Corporation, (Multiwall Bag Division), Allentown, Pa.; Schmutz Manufacturing Company, Louisville, Ky.; Spencer Chemical Company, Kansas City, Mo.; Sturtevant Mill Company, Boston, Mass.; Synthetic Nitrogen Products Corporation, New York, N. Y.; Swift & Company, (Plant Food Division), Chicago, Ill.; Texas Gulf Sulphur Company, Inc., New York, N. Y.; Union Bag and Paper Corporation, New York, N. Y.; Union Special Machine Company, Chicago, Ill.; U. S. Phosphoric Products Division, (Tennessee Corporation), Tampa, Fla.; United States Potash Company, Inc., New York, N. Y.; Werthan Bag Company, Nashville, Tenn.

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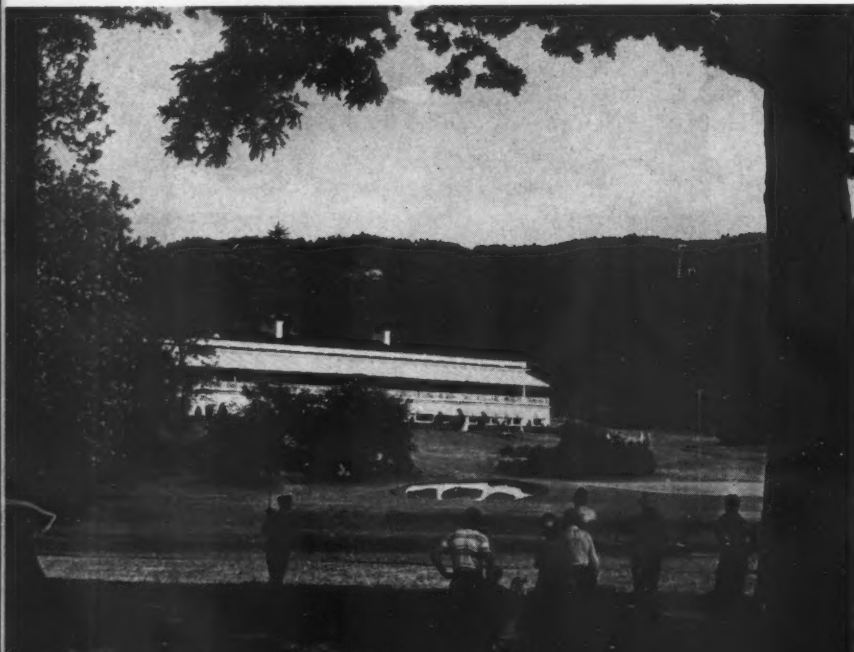
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Chairman: A. Norman Into, International Minerals & Chemical Corp., Chicago, Ill.; M. S. Hodgson, Empire State Chemical Co., Athens, Ga.; Nelson T. White, The Smith Agricultural Chemical Co., Columbus, Ohio.

COMMITTEE FOR GOLF AND MEN'S GOLF EVENTS

Chairman: John W. Rutland, International Minerals & Chemical Corp., Chicago, Ill.; Jeff D. Collins, Texas Gulf Sulphur Co., New York, N. Y.; B. A. Crady, United States Potash Co., Meridian, Miss.; Dean R. Gidney, United States Potash Co., New

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MAY 27

AGRICULTURAL INSECTICIDES

. . . A report on the
"Newer" products . . .



THE agricultural insecticide situation has undergone a major change in the last several years. Where previously agriculture was concerned with inorganic insecticides, such as lead arsenate and cryolite, and botanical insecticides of plant origin such as rotenone, pyrethrum and nicotine—today, agriculture is concerned with newer organic insecticides which have posed problems of plant tolerances, poison residues and other factors.

Development and introduction of DDT as an insecticide during the last war was the start of this major change and since then there have been literally thousands of organic chemicals experimented with for use as agricultural insecticides.

Most important of these in use today are lindane, TEPP, parathion, methoxy-DDT and DDD (analogs or close "relatives" of DDT), BHC, toxaphene and chlordane.

This article gives some descriptions, characteristics, uses and other factors concerning a few of these new organics and the older botanicals still in use.

Lindane

Lindane, the common name selected last year for the pure gamma isomer of benzene hexachloride, came on the market (as Isotox wettable powder) about three years ago after extensive experimental work developed a successful method of separating the gamma isomer in 100% purity from commercial benzene hexachloride (BHC).

Lindane retains all of the insecticidal effectiveness of BHC and is practically odorless because the other odor-imparting isomers of BHC are eliminated. Lindane is much more readily made into liquid sprays than BHC as it is over ten times as solvent soluble. It is also

By G. S. Hensill, Assistant Manager, Research and Development California Spray-Chemical Corporation, Richmond, California

readily formulated into dusts and wettable powders.

For agricultural use on many crops, as well as other uses, lindane is a very excellent overall insecticide and has many advantages over BHC. It is an excellent aphid control and an effective control of various beetles and caterpillars. It is more effective against thrips than BHC, and even DDT, because of its penetrating vaporizing action. Lindane can be used on many sensitive plants, such as cucurbits and certain other vegetables and crop plants, which are damaged by BHC.

As there is no danger of poison residue accumulation in animal tissues and milk, lindane was approved last July by the U. S. D. A. as an effective fly control insecticide for use in dairy barns, milk sheds and milk-processing buildings. Lindane can also be used for control of mange, lice and ticks on livestock.

Tetraethyl Pyrophosphate

Commonly referred to as TEPP this insecticide was first introduced from Germany as hexaethyl tetraphosphate but research work determined it to be tetraethyl pyrophosphate. TEPP is one of the finest insecticides ever produced for the killing of red spider mites and aphids. It is also effective against leafhopper nymphs, thrips and some other insects. It hydrolyzes very rapidly when mixed with water and a mixed spray dilution breaks down within a couple of hours. It is, therefore, necessary to use up diluted TEPP sprays immediately. Action on the insects is rapid and effective at low dilution

rates. However, as a result of its rapid effective action against these insects and its rapid breakdown, TEPP is a very valuable insecticide for use on fruits and vegetables up to within a day or two of canning, processing or marketing—without danger of poison residue.

Parathion

Parathion is another organic phosphate insecticide recently introduced into agricultural usage which has shown excellent control of red spider mites, aphids, and some other insects. As compared to TEPP, it has a longer residual activity lasting up to several days, but is higher in chronic toxicity and more dangerous to warm-blooded animals. Parathion, therefore, requires a great deal more care in handling and application. As there is some evidence of buildup of residue in fruits and vegetables, its use has to be restricted to times not too close to harvest.

Analogs of DDT

One of the analogs (or "close relatives") of DDT, dichloro diphenyl dichloroethane or DDD, has had considerable usage in agricultural areas for control of certain specific pests, such as tomato hornworm larvae, cutworms and various fruit worms infesting tomatoes. It has also been used against Tortrix larvae and has some other specific uses in agriculture. Its characteristics and action are similar to DDT, but its use will probably be restricted to specific pest control due to cost of production and other factors.

Methoxy-DDT or the dianisyl analog has had some use in agricultural areas. To date, its use has been more in fly control and public health work than in actual

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Front Cover illustration shows a portion of the plant of Lange Bros. Inc. St. Louis, Mo.

HAPPY TIMES...

If you will look at the "Tag Sale" headline on page 12 you will see why wrinkles, new gray hairs, lights burning late in the office, red ink and tension are ALL absent from the 1950 plant food picture.

Everybody is happy... in the fertilizer business... over the high tonnage record set. The majority are happy, anyway.

Happy and, perhaps, just a bit too contented over the easy results of this year's business. As one fertilizer salesman said in New Jersey the other day, "The home office has sorta' been coasting, and as orders keep on rolling in they keep that nice secure feeling in the region of the bankroll."

As the fields grow greener and crops grow tall and fast across the land, the "green lettuce" in the various bank accounts of fertilizer companies also grows tall—fast!

This abundance of the green stuff which makes the world go around means a lot to the industry for we are under critical attack right now from the Federal Trade Commission because of what they say are archaic methods of manufacturing and marketing fertilizers.

With dollars now available the long-postponed plant expansion plans should go forward, and the industry should swing over to complete mechanization as soon as possible. Improved machinery is now on the market and the decades of manual labor should be past history and not present procedure.

The financial flood will give many of the small manufacturers a chance to "wash" the old away and install the new. That will help to cut down the high costs of distribution and perhaps silence the wind of words from Washington.

We must advance for America is advancing, and the plant food "folks" must lead the parade of agricultural progress.

The next few years will give our industry the opportunity to modernize in every sense of the word. The next few years will be interesting, stimulating and progressive if we, as an industry with machine-age ideas, set out to make it so.

AMERICAN FERTILIZER

DOUGLASS MOVES UP... New President of Smith-Douglass



Ralph B. Douglass

Ralph B. Douglass, vice president and treasurer of the Smith-Douglass Co., Inc., was elected president of the company at a meeting of the board of directors held recently in Norfolk.

He succeeds to the post vacated last month by the death of Oscar F. Smith, who had headed the fertilizer manufacturing concern since its founding. The board, at the same meeting, elected Willard R. Ashburn, Norfolk and Virginia Beach

attorney, as general counsel of the company.

Douglass, a resident of Norfolk since 1920, became associated with Smith in 1927 when the present company was formed as the successor to the Smith Reduction Company, an earlier fertilizer operation established some years earlier.

He came to Norfolk with the Eastern Cotton Oil Company and had been vice president of the company for several years when he joined with Smith in a fertilizer manufacturing business which today has plants throughout the east, and as far west as Albert Lea, Minn.

APFC Director

A former chairman of the executive committee of the American Plant Food Council, Inc., and one of its incorporators, Douglass now is a member of its board of directors.

He also is a member of the board of directors of the Virginia Polytechnic Institute Educational Foundation, the Agricultural Foundation of North Carolina State College, the Plant Food Institute of North Carolina and Virginia, and the Norfolk Council of Social Agencies.

BOLL WEEVIL ALARM SOUNDED BY USDA

A serious note in the crop news has been sounded as the reports show more boll weevils than ever recorded before in the southeastern part of the United States, by the U.S. Department of Agriculture's Bureau of Entomology and Plant Quarantine.

An average of nearly 8,000 live weevils per acre were found in 8 South Carolina counties... nearly twice as many as any previous record. The average was over 11,000 weevils per acre in Darlington, Florence, and Laurens counties.

In North Carolina, the winter carry-over of weevils was also extremely high. An average of nearly 7,000 weevils per acre were found in 7 counties of that state. In one county, Scotland, live weevils were found at the rate of 15,972 per acre, ready to move in on cotton fields.

The entomologists say this means

that huge numbers of boll weevils will enter cotton fields in the southeastern part of this country just as soon as spring opens. They emphasize, however, that weather conditions during June and July will largely determine how serious the weevil problem will be in 1950.

SUTHERLIN HEADS SALES FOR CHASE IN N. ORLEANS

John A. Sutherlin has been appointed Sales Manager of Chase Bag Company's New Orleans Branch according to a recent announcement by J. H. Counce, Manager at New Orleans.

Mr. Sutherlin became a member of the New Orleans territory's sales force immediately following his tour of duty as an Army Air Force pilot during World War II.

His new assignment will include eight states in the South and Southeast with New Orleans as his headquarters.

ARLEDGE PROMOTED TO "VEEP" BY V-C.

C. Cecil Arledge will become vice president in charge of sales of Virginia-Carolina Chemical Corporation on June 1, it has been announced by Joseph A. Howell, president of the chemical firm.



C. Cecil Arledge

Mr. Arledge comes to Richmond from Atlanta, Georgia, where he has been a sales executive of Armour Fertilizer Works for a number of years. In his new position, he will have general supervision of the sales activities of the V-C corporation.

DAVISON CHEMICAL SPONSORS TV SHOW

A weekly television show, "The Johns Hopkins Science Review," an educational feature televised Fridays at 9:30 (EDST) p.m. from Baltimore's WAAM (ABC), is now sponsored by The Davison Chemical Corporation of Baltimore.

Davison's sponsorship marks the first time industry has employed television as an educational medium, it was said. The shows consist of a series of science demonstrations given by leading Johns Hopkins scientists under the direction of Lynn Poole of the university.

C. F. Hockley, president of Davison Chemical said the general educational format of the show would be retained, but guest speakers representing Baltimore's business, educational and civic interests, would be added to discuss the relationship of chemical manufacture to the city's industrial and community activities.

Obituary

L. W. HUBER

Members of the fertilizer industry were saddened by the recent death of L. W. Huber. Mr. Huber died May 12, at his home in Ridgewood, N. J. He was 49.

The May 13 issue of *AMERICAN FERTILIZER* carried a report of Mr. Huber's illness which forced him to close his office at 170 Broadway, New York City. He was active in the brokerage of fertilizer materials, chemicals, oils and other raw materials for industrial plants.

He began his career in the industry in 1914 with C. B. Peters Company of New York, and opened the Huber Company offices in March 1926. He was a regular attendant of the NFA Conventions and had numerous friends in the fertilizer field and allied industries.

WILLIAM H. GABELER

William H. Gabeler, 58, manager of the Phosphate Rock Division of The Davison Chemical Corporation of Baltimore, Maryland, died April 29 in Bartow, Florida, where his office was located and where the company has extensive phosphate mining interests. He was widely known in the fertilizer industry.

Mr. Gabeler joined Davison in 1920 and was assigned to assist in the development of the phosphate rock properties of the company at Bartow. He also designed the rock drying and treating plant for the

Southern Phosphate Corp. plant at Bartow.

He served as General Superintendent of the Davison Curtis Bay plant from 1936 to 1942 when he was made assistant vice-president and was active in the production of silica gel catalyst for the synthetic

rubber program so necessary for the prosecution of the war.

In 1945 he assisted in the development of an expansion program in connection with the corporation's fertilizer plants. In August 1946 he was made manager of the new Phosphate Rock Division.

APRIL TAG SALE TONNAGE HIGHEST ON RECORD

Figures received by The National Fertilizer Association from States having either tax tag or fertilizer sales reporting programs reveal that the tonnage reported under these programs last month was the highest for any April on record. Totaling 1,522,000 equivalent short tons (26 per cent more than in April 1949), the latest figures exceed those of the same month last year in each

of the 13 reporting States. The South reported tag sales plus manufacturers' shipments equivalent to 1,303,000 tons, or 229,000 tons more than a year ago, while the 3 Mid-western States sold tags representing 219,400 tons of fertilizer, a gain of about 85,000 tons over April 1949.

Current calendar year and fiscal year totals are somewhat lower than those at the same stage of last year.

FERTILIZER TAX TAG SALES AND REPORTED SHIPMENTS (In Equivalent Short Tons) COMPILED BY THE NATIONAL FERTILIZER ASSOCIATION

State	April	Calendar Year Cumulative January-April		Fiscal Year Cumulative July-April		
		1950	1949	1950	1949	1949-50
Virginia.....	111,630	80,178	418,182	420,203	606,610	611,100
N. Carolina.....	296,928	229,775	990,183	1,187,597	1,180,935	1,651,535
S. Carolina.....	101,798	105,780	648,426	723,380	848,570	959,300
Georgia.....	194,697	161,627	884,895	908,915	1,102,108	1,168,878
Florida.....	73,611	53,735	420,120	383,007	888,749	731,181
Alabama.....	228,694	208,122	576,972	650,022	742,489	836,386
Tennessee.....	104,611	94,842	204,894	218,540	305,937	360,112
Arkansas.....	81,489	65,178	179,680	181,852	247,098	270,260
Louisiana.....	48,327	32,716	165,544	146,194	221,988	215,615
Texas.....	61,331	42,510	263,292	240,166	478,941	449,472
Total South.....	1,303,116	1,074,463	4,752,188	5,059,876	6,623,425	7,253,868
Indiana.....	74,950	45,505	371,874	276,419	777,293	783,494
Kentucky.....	92,073	42,275	346,377	294,478	512,424	505,807
Missouri.....	52,387	46,770	271,122	261,962	439,106	447,718
Total Midwest....	219,410	134,550	989,373	832,859	1,728,823	1,737,019
Grand Total.....	1,522,526	1,209,013	5,741,561	5,892,735	8,352,248	8,990,887

BONE MEAL

TANKAGE

BLOOD

SHEEP—COW—POULTRY MANURE

CASTOR POMACE

NITROGENOUS

GROUND TOBACCO STEMS

HOOF MEAL

ALL FERTILIZER MATERIALS

FRANK R. JACKLE

405 Lexington Avenue

New York 17, N. Y.

FERTILIZER MATERIALS MARKET

NEW YORK

Drop in Sulphate of Ammonia Prices Reported. Demand for Ammonium Nitrate and Fertilizer Organics Continues Good. New Potash Prices Show Little Change in Delivered Cost on Contract Schedules

NEW YORK, May 24, 1950

Sulphate of Ammonia

One leading producer cut the price recently and other producers followed and prices today range from \$32.00 per ton to \$37.00 per ton according to shipping point. Some authorities think there will be a better movement at the lower prices.

Nitrate of Soda

Shipments were reported as slow at the present time and stocks were ample at most points.

Ammonium Nitrate

No change in the price of this material was reported and demand continued good from most sections.

Nitrogenous Tankage

The demand for this material continued good, with the market quoted at \$3.90 to \$4.00 per unit of ammonia (\$4.74 to \$4.86 per unit N), f.o.b. shipping points. Some producers were reported sold up until the Fall.

Castor Pomace

Some additional sales have been made at \$30.50 per ton, f.o.b. production points, for summer shipment. Very little spot material is offered.

Organics

Fertilizer organics were steady and some materials such as tankage and blood showed a slight advance in price due to better buying from the feed trade. Tankage sold at \$7.50 per unit of ammonia (\$9.12 per unit N), f.o.b. Eastern points. Blood last sold at \$6.50 per unit of ammonia (\$7.90 per unit N). Soy-

bean meal eased slightly after its recent advance and buyers were buying only for their immediate requirements, with prices for quick shipment being quoted at \$70.00 per ton in bulk, f.o.b. Decatur, Ill. Cottonseed meal sold at \$70.00 per ton, f.o.b. southeastern points, and linseed meal was in fair demand at around \$68.00 per ton, f.o.b. production points in the East.

Fish Meal

Buyers are not inclined to buy ahead on this material as the fishing season is at hand. Some feel prices may decline as the season progresses. Quotations are nominally \$135.00 per ton for fish meal for summer shipment. Various lots of imported material have arrived recently.

Bone Meal

Some late demand was noted for this material but stocks were ample to fill buyer's needs. Demand for feeding bone meal was slow and feed buyers in a good many cases stayed out of the market.

Hoof Meal

Last sales were made on basis of about \$7.00 per unit of ammonia (\$8.51 per unit N), f.o.b. Chicago with little material offered at this figure.

Superphosphate

With the end of the mixing season at hand, movement was slow, although at some interior points a better demand developed.

Potash

Producers recently announced, prices for the coming season and

while the price was advanced to 40 cents per unit, f.o.b. Carlsbad, the discounts were increased so that the actual prices for the buyers figured out the same. There were still some scattered stocks at various Atlantic ports in the importers hands.

Garbage Tankage

Some inquiry developed for this material for future. Prices remained firm at most points.

PHILADELPHIA

Lower Prices on By-Product Sulphate of Ammonia. Market Quiet. Supplies of Most Materials Ample

PHILADELPHIA, May 24, 1950

Market in materials is still rather quiet with no important price change except in coke-oven sulphate of ammonia, which is now the cheapest form of solid nitrogen. Organics are in ample supply and price position remains about the same.

Sulphate of Ammonia—Coke-oven price was reduced last week to as low as \$32.00 per ton in bulk at production plants, and the export market is quoted at \$35.00 at seaboard. This article is now the lowest costing solid form of nitrogen obtainable.

Nitrate of Soda—Demand continues fairly normal for the season although the movement is in rather less volume than desired.

Blood, Tankage, Bone—Demand is rather slow with Blood quoted at \$6.00 to \$6.25 per unit of ammonia (\$7.29 to \$7.59 per unit N), and tankage at \$7.00 to \$7.50 (\$8.51 to \$9.12 per unit N). Raw bone is quoted at \$60.00 to \$62.50, and steamed bone at \$58.00 to \$60.00 per ton.

Castor Pomace — Demand has eased off and occasional sales are reported at \$30.50 per ton at the oil mills.

Fish Scrap—New scrap is quoted at \$130.00 on when-and-if made basis, with menhaden meal at

\$140.00 to \$145.00 per ton. Market quiet.

Phosphate Rock.—Domestic demand is reported firm and steady, with normal seasonal movement on contracts. Supplies are ample.

Superphosphate.—Market is firm with supply not too easy in this territory. No recent price changes are noted.

Potash.—Inquiry for spot picked up very materially during the recent railroad strike, but the situation is again practically normal and little activity in evidence.

CHARLESTON

**Demand Slackens with End of Season.
Good Inquiry for Future Material.
Lower Sulphate of Ammonia Prices.**

CHARLESTON, May 22, 1950

Fertilizer materials for use this season are slackening in demand as the season tapers off. Superphosphate is fairly tight in certain areas, but is easy in the South. Demand for organics for this season is dull, but for the new season fairly active. New prices of potash have been made by several domestic producers at a very slight increase.

Organics.—Demand for organics for prompt shipment is dull as the fertilizer season is practically over. Demand for fall and spring organics is good and two domestic nitrogenous producers have just withdrawn from the market, having sold their expected production for the time being. Prices are nominally \$3.75 to \$4.10 per unit of ammonia (\$4.56 to \$4.98 per unit N), in bulk f.o.b. production points, for domestic nitrogenous. Limited

quantities of imported nitrogenous have been offered at around \$4.75 per unit of ammonia (\$5.77 per unit N), in bags c.i.f. Atlantic ports.

Castor Pomace.—Last sales were made at \$30.50 per ton in bags, f.o.b. Northeastern production points with no offerings for shipment beyond August. Movement is primarily against current contracts.

Dried Ground Blood.—Chicago market is quiet at around \$6.25 per unit of ammonia (\$7.59 per unit N), in bulk, with the New York market about \$6.75 to \$7.00 per unit (\$8.20 to \$8.51 per unit N), f.o.b. New York area.

Potash.—Two more producers recently announced contract prices for the new season. Muriate of potash in bulk, f.o.b. Carlsbad, New Mexico is at 40 cents per unit of K_2O and manure salts at 21 cents per unit of K_2O . Discounts are reported at 10 per cent and 6 per cent, making the final price a fraction of a cent above the past season's prices. Muriate of potash f.o.b. Trona, California in bulk is priced at 48½ cents carlots.

Ground Cotton Bur Ash.—Shipments have declined as the season nears its end, but during the past season, considerable tonnage of this 30/40 per cent K_2O material was used by fertilizer manufacturers over a wide area. Current price is 65 cents per unit of K_2O in bulk, f.o.b. Texas production point for ground material.

Phosphate Rock.—Market is relatively quiet, but prices remain steady. Movement is in seasonal dimensions.

Superphosphate.—Supplies are easy in the South, but in certain areas of the East and Midwest tight supply conditions prevail.

Sulphate of Ammonia.—Producers of coke-oven material have recently lowered prices for shipment during the new season. Material originating at Chicago is reported at around \$35.00, at Pittsburgh \$32.00 and the Birmingham area, \$37.00 per ton in bulk. It remains to be seen whether producers of synthetic material this year will meet these prices.

Ammonium Nitrate.—Demand is seasonal, yet absorbing available supplies. Prices remain firm.

Nitrate of Soda.—Stocks continue plentiful and current demand fairly steady. Shipments so far this spring have not been in the volume previously expected. Prices remain unchanged.

CHICAGO

Feed Materials Market Strong. Prices on Finished Products Tend to Advance

CHICAGO, May 22, 1950

The midwestern market on animal proteins is steady to strong. Slight advances have been realized on unground materials and list prices on finished products have been advanced. The demand is quite broad and in most instances sellers are looking for opportunities to realize better prices for unground material. If this is accomplished, it is quite probable that further increases will be called for unfinished goods.

Meat scraps, ground and sacked, 50 per cent protein, range from



**SINCE 1885 — [GOOD BAGS
GOOD SERVICE**

QUALITY THAT LASTS!

Burlap or Cotton Bags of all kinds . . .

New or Used—Printed or Plain—Laminated

Write, wire or phone our nearest office for latest quotations

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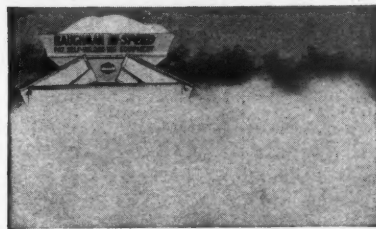
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Baughman
Holds the spread to the ground!



Baughman's new principle (above) contrasts sharply with the ordinary method (right). The direction control of the Model 235 Attachment assures minimum waste in spreading expensive fertilizers.



MODEL 23F FERTILIZER SPRAYER ATTACHMENT MAKES IT LAY AND STICK

For Baughman K, K-2 and K-3 Bodies. Prevents wind from scattering lime and phosphate spreads. Confines air blast from whirling distributor and directs spreading materials outward and groundward. Causes the spread to LAY and STICK. Spreads limestone up to 30 feet . . . phosphate and other fertilizers up to 20 feet.

Folds to 8 feet easily and solidly for highway travel. Open (to 18 feet) and ready for work in a jiffy. Ruggedly built of 13 gauge alloy steel . . . heavy reinforced hinges. No moving parts . . . all parts replaceable. Heavy combination canvas and rubber curtain. Nothing like it on the market . . . **WRITE FOR FULL INFORMATION.**

CUT COSTS . . . INCREASE PROFITS with BAUGHMAN Customized EQUIPMENT

MODEL Q SCREW CONVEYOR loads and unloads from the horizontal to 50°. Capacity up to 40 bu. per minute. Big 9" conveyor screw handles any dry, powdered or granular materials. Available with or without wheels—hundreds of applications.



BELT and BUCKET ELEVATOR . . . stores in bulk . . . delivers in bulk . . . eliminates bagging. The most efficient way to handle commercial fertilizers. **LOW COST** because it's assembled from standard size sections, eliminating the cost of a custom-built installation.



WRITE FOR COMPLETE DETAILS
of Baughman fertilizer handling and spreading equipment



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252 SHIPMAN ROAD, JERSEYVILLE, ILLINOIS

"The Pioneers of the Fertilizer Spreading Industry"

\$115.00 to \$120.00 per ton according to location. Digester tankage, 60 per cent protein, is listed at \$110.00 to \$115.00 per ton. Dry rendered tankage is generally held at \$2.15 per unit of protein, but thus far buying interest is confined to price levels ranging from \$2.00 to \$2.10 per unit delivered, depending upon quality. Wet rendered tankage is firm at \$8.50 (\$10.33 per unit N) for high test material with \$9.00 (\$10.94 per unit N), generally quoted. Low testing material is about 50 cents per unit higher.

Dried blood again sold at \$6.25 per unit of ammonia (\$7.59 per unit N). This price is still obtainable and \$6.50 (\$7.90 per unit N), is asked. Steamed bone meal in bags, 65 per cent B.P.L., is quoted \$70.00 to \$75.00 per ton and raw bone meal, 4½ per cent ammonia, 45 per cent B.P.L., \$65.00 to \$70.00 per ton.

RUPP ELECTED PRESIDENT OF BAUGH & SONS CO.

Walter S. Rupp has been elected President of The Baugh and Sons Company, 25 South Calvert St., Baltimore 2, Md., at a meeting of the organization's Board of Directors. He was formerly Executive Vice President.

B. H. Brewster resigned as President of the Company and was elected Chairman of the Board of Directors and Francis White resigned as Vice President and was elected Vice Chairman of the Board. The announcement was made by Mr. Brewster.

Mr. Rupp is a member of the

Board of Directors of the American Plant Food Council.

MARCH SULPHATE OF AMMONIA

The end of the coal strike on March 6th was reflected in the production figures for March on by-product sulphate of ammonia as reported by the U. S. Bureau of Mines. Total production at the coke ovens from both by-product and purchased ammonia came to 66,000 tons, compared with 53,000 tons in February. This is still far

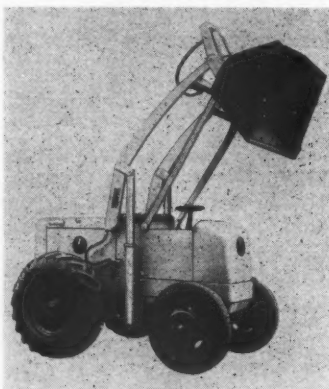
below the March, 1949, output of 79,000 tons. Shipments during March equalled production, with the result that stocks on hand remained around the 85,000 ton level.

	Mar. 1950	Feb. 1950	Mar. 1949
Production	Tons	Tons	Tons
Sulphate of Ammonia			
By-Product.....	61,587	49,871	74,256
Purchased Am.....	4,412	3,544	4,862
Ammonia Liquor.....	1,745	1,555	2,066
Shipments			
Sulphate of Ammonia			
By-Product.....	62,129	57,633	80,373
Purchased Am.....	4,457	3,320	5,052
Ammonia Liquor.....	1,271	1,282	1,701
Stocks on Hand			
Sulphate of Ammonia.....	84,531	85,597	14,333
Ammonia Liquor.....	588	664	441

Hough Model HF Payloader . . .

The Frank G. Hough Co. recently announced its completely restyled and improved Model HF ¾-yard PAYLOADER tractor shovel.

Included in the improvements are greater engine horsepower, greater built-in tractor effort, more digging power, faster speed ranges and increased stability and balance. Four



Hough Model HF Payloader

forward speeds, from 2.4 to 10.5 mph, and four reverse speeds, from 3.5 to 28.7 mph, are provided in the full-reversing transmission. A new, heavy, cast radiator grill at the rear of the Payloader gives effective protection and has a functional modern look. The rest of the exterior has also been restyled so that the entire unit has a cleaner, more efficient appearance. Boom side-guards are also included as standard equipment.

The success of its predecessor for a wide variety of digging, loading and other earthmoving and material handling work predicts an even greater acceptance and performance for this new, more powerful Model HF Payloader. Literature and other details can be secured from your Hough Distributor or by writing to The Frank G. Hough Co., 704A Sunnyside Avenue, Libertyville, Illinois.

CAL-MAG OXIDES

CUT YOUR COSTS WITH

Unexcelled for its superior Dehydrating, Neutralizing, and Curing factors in the preparation of better fertilizers. Write for complete information.

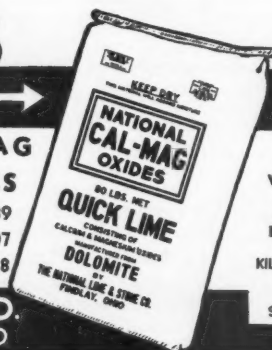
PROMPT SHIPMENTS

Three railroads serve our Carey, Ohio plant—assuring prompt delivery—everywhere.

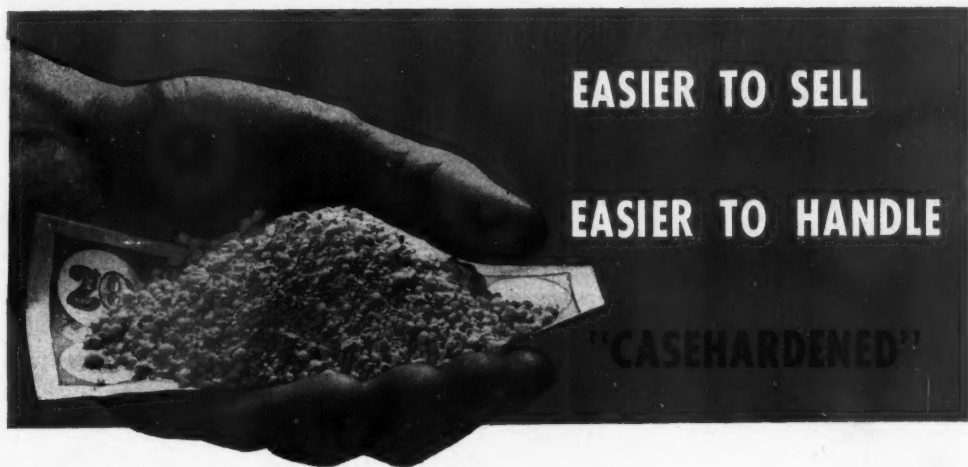
CAL-MAG OXIDES

MgO	40.39
CaO	58.07
TNP	203.88

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We Also Produce
DOLOMITIC
HYDRATED
LIME (165 TNP)
and
KILN DRIED RAW
DOLOMITE
(107 TNP)
Screened to size



EASIER TO SELL

EASIER TO HANDLE

"CASEHARDENED"

DAYCO[®] Granulated SUPERPHOSPHATE



The exclusive Davison tumbling process that puts a porous, casehardened surface around each granule of Davco Granulated Superphosphate gives you a factual selling advantage that puts money right into your hands.

You can tell the farmer it stores without caking. It pours and drills freely without dusting, bridging or clogging. The casehardened surface prevents too rapid leaching to assure maximum utilization by the crops.

You enjoy the same cake-free storage advantage, virtually dust-free bagging, and a price that puts you in a favorable competitive position. Because Davison owns and controls every step in production from the mines to the finished product, you are always assured of fastest service and highest quality on Davco Granulated Superphosphate.

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Progress through Chemistry **D** **BALTIMORE-3, MD.**

EXCLUSIVE PRODUCERS OF GRANULATED, AND ONE OF THE OLDEST AND LARGEST PRODUCERS OF NORMAL GRADES OF SUPERPHOSPHATES



WASHINGTON

INFARMATION

(Exclusive from our Washington correspondent)

WE MENTIONED LAST TIME that there might be some significance in lower prices then being quoted on ammonium sulfate for export. It looks now that we were not far off the beam—considering the recently announced prices for by-product material of \$32-33-34-35 and 37 dollars per ton in bulk depending upon location.

★ ★ ★ ★

IN SOME QUARTERS there is present a feeling that part of the forecast drop in mixed goods tonnage this year may be made up by increased use of straight materials—particularly nitrogenous side dressers.

★ ★ ★ ★

PMA INFORMATION HAS just put out a good radio script on the importance of fertilizers to soil conservation. It points out the favorable cost position of fertilizers compared with other things farmers buy—and that farmers can help in keeping fertilizer costs low by anticipating their needs and getting their orders in well ahead of time. This would tend to spread deliveries over a longer stretch during the year. Perhaps the industry can lend a hand by giving more attention to the importance of supplying goods that will keep in good condition under farm storage, and improved packaging. If you want a copy write Production and Marketing Administration, Information Branch, Washington 25, D. C., for radio script No. 122.

★ ★ ★ ★

IN VIEW OF THE reported lack of response to Army bid invitations it does not look as though there is any interest on the part of private interests at present to take over operation of Morgantown Ammonia Works. What! Nobody needs 600 tons of ammonia a day?

★ ★ ★ ★

If any items mentioned in this column are of special interest to our readers, please write and ask for more news. Address your letters to Washington InFARMation.

IN THE FUTURE - - -

- June 1 West Virginia University Field Day, Reymann Memorial Farm, Wardensville
- June 6-9 Southern Tobacco Workers' Conference, Gainesville, Florida
- June 8-10 Meeting, Southern Feed and Fertilizer Control Officials, Galveston, Texas
- June 14-16 Meeting, Western Section of the American Society of Agronomy, Davis, California
- June 19-21 Annual Meeting, American Society of Agricultural Engineers, Statler Hotel, Washington, D. C.
- June 21-26 Fifth Annual Convention, Plant Food Producers—Ontario, Tadoussac, Quebec
- June 26-28 Summer meeting Northeastern Section, American Society of Agronomy, Ithaca, New York
- June 29 Grassland Field Day, Dairy Research Farm, Sussex, New Jersey
- July 9-14 New England Pasture Tour
- July 12-13 South Carolina Fertilizer Conference, Clemson, South Carolina
- July 17-18 Northwest Fertilizer Conference, Puyallup, Washington

THRIFTY PROTECTION
for HARD-TO-PACK
PRODUCTS



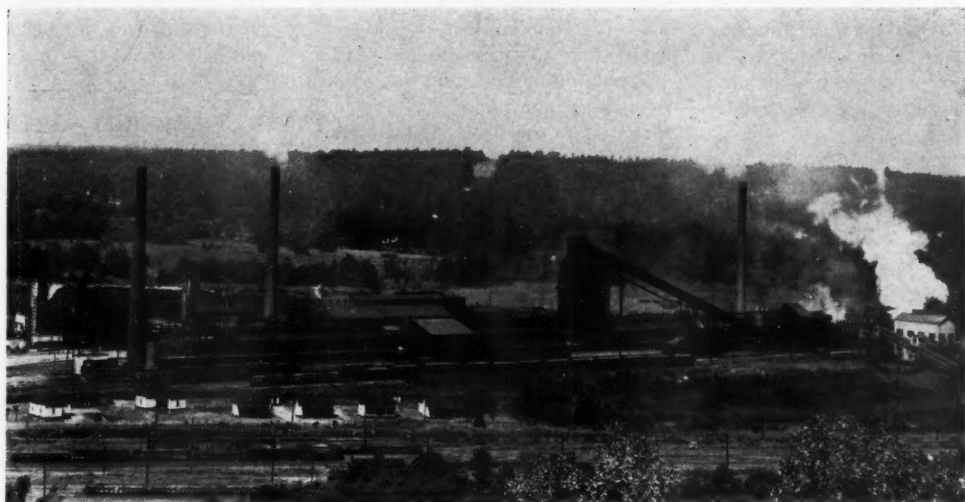
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New Baughman Transport Body

Baughman Mfg. Co., Jerseyville, Ill., has introduced a transport body specially designed for handling superphosphate. Self-unloading, the new product is designed to load, haul and unload superphosphate without bagging.

A belt drive conveyor in the bottom of the body is said to unload with minimum agitation thus preventing superphosphate from packing or crusting. High speed operation is one of the main features of the body.

The new body is compartmentized so that as many as six individual loads can be hauled on one trip. Unloading controls are located on the outside of the body. A swinging boom is provided for attaching a conveyor to direct material flow into bins, windows or portholes.

Built of alloy steel, the new product is of electro welded construction. A waterproof roof can be installed.

All bearings are of the grease sealed type. Power is supplied by

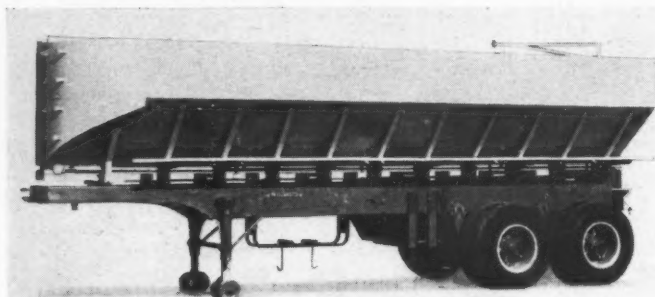
power take-off on the truck transmission. For trailer type bodies, either individual motor drive, special fifth wheel taking power through a king pin or a flexible shaft drive can be employed.

SEDBERRY APPOINTS DIVISIONAL MANAGER

M. B. Sedberry, president of J. B. Sedberry, Inc. of Franklin, Tennessee, has announced the appointment of Mr. Roy A. Harold, operating as Jay Bee Equipment Co., P.O. Box 390, Ardmore, Pa., as divisional manager on the Jay Bee line of JAY BEE mills, mixers, etc. for the following states: Pennsylvania, Rhode Island, Connecticut, New Jersey, Delaware, New York, Maine, New Hampshire, Vermont, Massachusetts.

Samson had the right idea about advertising. He took two columns and brought down the house.

Politics consists of two sides and a fence.



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100th Anniversary Of H. J. Baker & Brothers

Two great centennials are in progress in this year of 1950 . . . the industry is celebrating its 100th anniversary, and H. J. Baker and Brothers is also looking backward to its origin in Baltimore, July, 1850.

Baker & Bro. are importers, exporters and distributors of heavy chemicals, fertilizers, feeding materials and greases. The Century Anniversary Year was announced this month by the firm's partners H. V. B. Smith and H. S. McCormick.

"In commemorating the centennial of our firm" said Mr. Smith, "our greatest satisfaction is derived from our long and intimate connection with the fertilizer industry."

The Baker organization stems from a Baltimore firm started in 1842 by Henry J. and Charles J. Baker in the paint, oil and glass trade. In July, 1850, the business, known as Baker Brothers & Company, had reached the point where it comprised two warehouses on So. Charles St. The warehouses burned down that month and were rebuilt in the form of a five-story building, completed in 1851.

New York Office Opened

In 1850, the year of the fire in Baltimore, the brothers organized H. J. Baker & Bro., in New York for the purpose of conducting a paint, oil and glass business and for the importation of French glass and chemicals. H. J. Baker came to New York while Charles remained in Baltimore, becoming in time one of that city's most respected citizens.

In 1851, Henry J. Baker was joined by Conrad Braker, Jr. The Baker organization remained a partnership throughout its history but on the death of Henry J. Baker the connection of the Baker family with the partnership ceased. Subsequently the son of Conrad Braker, jr., Henry J. Braker, joined his father in the partnership and on the death of his father, continued the business. In 1901 he took in as Junior partner Frank Morse Smith, the father of H. V. B. Smith. H. V. B. Smith became a member of the firm in 1926 and H. S. McCormick joined him in the partnership in 1932.

Allied Companies

In 1857 Baker built an oil works in Jersey City for the manufacture of castor oil and this plant was the forerunner of the present-day Baker Castor Oil Company. In 1864 Baker purchased the Gowanus Chemical Works in Brooklyn where it produced saltpeter and other chemicals. It also manufactured complete mixed fertilizers in Brooklyn under the name of East India Chemical Works and these fertilizers were well known in their day. During the course of this varied activity the firm carried on a substantial foreign business, principally import, and dealt in commodities such as plumbago, chemicals for soap, glass and paper makers, refined and crude camphor, epsom salts, borax and magnesite.

Frank Morse Smith was in the

partnership from 1901 until his death in 1929 and during that period, together with his partner, William H. Gelshehan, who was in the firm from 1908 to 1924, the business became more and more involved with the fertilizer industry. Over the years it sought in all corners of the earth practically every type of fertilizer raw material for distribution to fertilizer manufacturers.

To-day, in addition to fertilizer materials, the firm handles in a very substantial way feeding materials, packing house by-products, fishery by-products and several chemical and pharmaceutical specialties.

DAVISON SHOWS DROP IN NINE MONTHS NET

The Davison Chemical Corporation reports a net income for the nine months ended March 26, 1950, amounting to \$1,115,000, as compared with \$1,462,000 for the same period last year.

Sales for the nine months amounted to \$23,640,000, compared with \$25,725,000 for the similar period a year ago.

Chester F. Hockley, Board Chairman and President of the Corporation, in commenting on operations for the period stated that the shortage of potash which resulted from the strike at the mines of domestic suppliers has been a major factor in the reduction of sales volume of commercial fertilizers. The reduction in domestic supplies of potash was in part covered by purchases of imported material at premium prices, which resulted in higher unit

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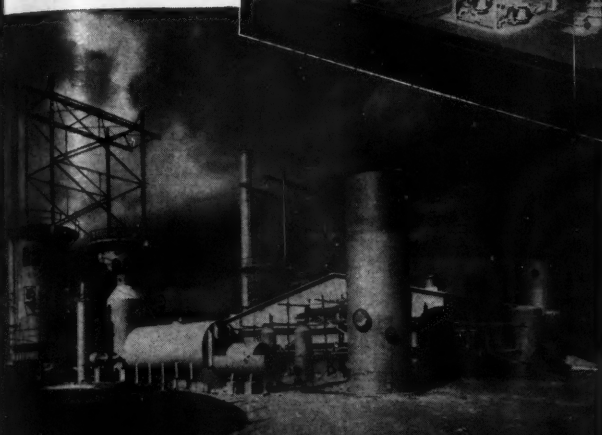
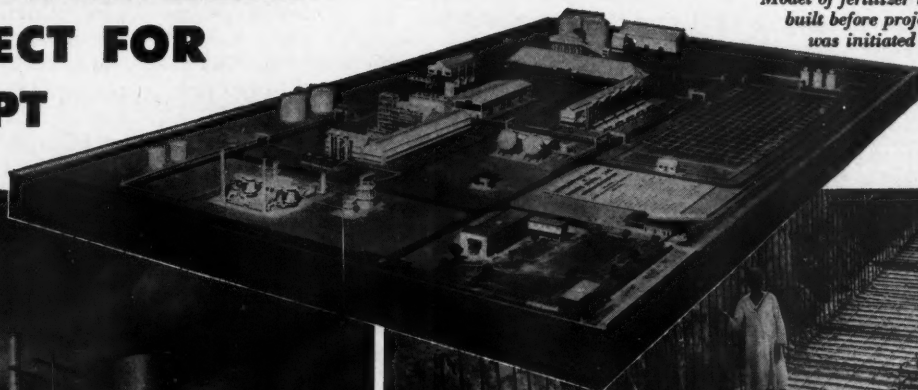
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Codes used: Acme, Bentley's Complete, Appendix, Private

Progress Report by Chemico

LARGE FERTILIZER PROJECT FOR EGYPT

Model of fertilizer works built before project was initiated



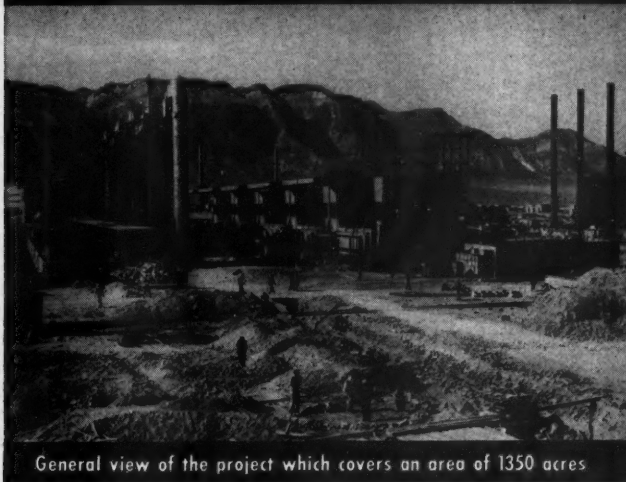
Gas reformers to convert refinery gas to hydrogen and nitrogen



Local craftsmen placing reinforcing steel for foundations



Nitric acid absorption towers and ammonia storage tanks



General view of the project which covers an area of 1350 acres

These photographs show work in progress on the 550-ton per day fertilizer plant being built at Suez, Egypt. This important Chemico project includes plants for the production of synthetic ammonia, nitric acid and calcium nitrate together with complete facilities for supplying utilities such as power and water to the various units. This is

one of a number of world-wide Chemico activities which include projects in Formosa, India, Mexico, South Africa and Brazil. Whatever your problem may be in the production of heavy chemicals . . . wherever it may be . . . you can be sure that Chemico will deliver a highly efficient plant on a guaranteed-performance basis.

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Chemico Plants are Profitable Investments

costs of products sold. There has also been a shrinkage in export sales of superphosphate which is attributable to dollar shortage in several countries which were purchasing superphosphate in the United States earlier in the preceding fiscal year. Partially offsetting these unfavorable factors, other products of the Corporation, generally, have shown an improvement in both sales volume and earnings.

OHIO NITROGEN SURVEY COMPLETED

Dr. E. E. Barnes, of the Department of Agronomy, Ohio Agricultural Experiment Station, recently reported to AMERICAN FERTILIZER the completed 1950 survey of available nitrogen in Ohio wheat fields.

Contrary to expectations available nitrogen is high—heavy rains this winter have not leached out the ammonia and nitrate farms as much as was expected.

With this condition prevailing generally, it would appear to be bad judgment to apply more nitrogen to wheat fields continues Barnes, except on fields known to be in a very unfertile condition. Also, it should be remembered that even without more nitrogen, straw growth is apt to be heavy, and it was necessary to clip some wheat fields in early May, so successful seedings of clover or alfalfa could be made.

Topdressing winter wheat in early April with nitrogen fertilizer is a practice which has been highly advertised during the last quarter of a century, and experimental results obtained in testing this practice

have been erratic. In not more than half the years has the practice been profitable.

In early years it was plain that there was a correlation between the weather and whether or not applications of nitrogen on wheat resulted in increased yields. In seasons following winters with heavy rainfall on unfrozen ground good increases in wheat yields from spring applications of nitrogen have usually been recorded. On the other hand, if the preceding winter was one of low rainfall or one in which the ground was frozen most of the time, spring applications of nitrogen have not given increases in wheat yields, at least not enough to be profitable.

RADIO-ACTIVE WORK AT GEORGIA STATION

Work with radio-active materials, at the Georgia Experiment Station, will be continued this year, according to Dr. L. C. Olson, soils chemist.

The Georgia Station will analyze radio-active samples for at least four other Southeastern states in addition to supervising all experiments in Georgia. The station also will be responsible for the safety handling of radio-active fertilizers in the Georgia tests.

Tests will be conducted with radio-active phosphate on Ladino clover and alfalfa at Experiment, on peanuts at Tifton, and on cotton at Athens. The objective of all these tests will be to determine when lime should be applied to the soil in relation to superphosphate in order to get the most efficient use of the phosphate.

In addition to these tests, another test will be conducted in cooperation with the Georgia Mountain Experiment Station to determine how fine or coarse phosphate should be to give maximum plant uptake of the phosphate.

The laboratory at the Georgia Experiment Station will analyze samples of radio-active plant materials for South Carolina, Mississippi, Florida, and Alabama.

Specially adapted Geiger counters have been secured to measure the amount of radiation from the plants.

MARCH SUPERPHOSPHATE

Increased mixing activities throughout the industry during March resulted in a 15 per cent increase in superphosphate production, according to the U. S. Bureau of Census. Total output, figured on the basis of 18 per cent A.P.A., was 1,073,136 tons, compared with 857,122 tons in February. Shipments to dry mixers increased even more, resulting in a drop in stocks on hand at the end of March to a figure of about 1,000,000 tons, compared with stocks of 1,300,000 tons on February 28th.

	March 1950	Feb. 1950	March 1949
Production	Tons	Tons	Tons
Normal, 18%.....	913,952	709,907	907,415
Concentrated, 45%..	61,267	56,481	41,848
Base Goods, 18%..	4,512	3,182	8,236
Shipments and Used in Producing Plants			
Normal, 18%.....	1,166,008	887,509	1,177,760
Concentrated, 45%..	84,920	67,157	44,746
Base Goods, 18%..	10,136	6,012	12,104
Stocks on Hand, End of Month			
Normal, 18%.....	821,629	1,055,717	824,802
Concentrated, 45%..	70,447	94,100	61,738
Base Goods, 18%..	11,964	17,588	5,309

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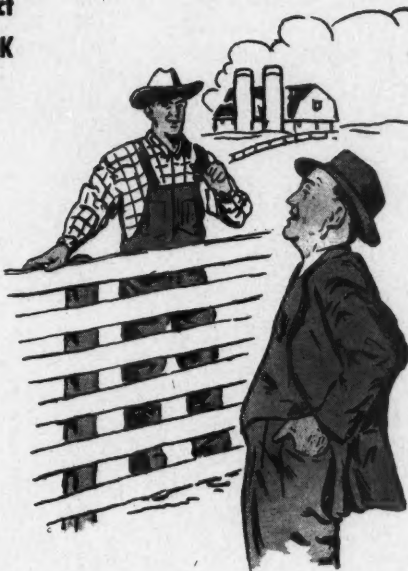
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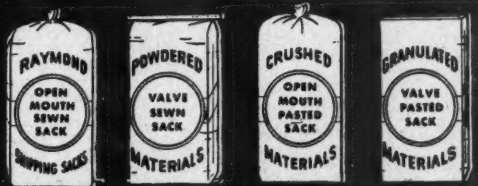
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THE RAYMOND BAG COMPANY
MIDDLETOWN, OHIO

Illustrated are the various types of RAYMOND MULTI-WALL PAPER SHIPPING SACKS that are used in the fertilizer industry.



LEAF SPRAYS MAY NOT FILL NITROGEN NEEDS

Dr. C. P. Harley, plant scientist of the U. S. Department of Agriculture reports that apple growers who supply nitrogen to their orchards through the new urea leaf sprays may need to apply additional fertilizer to the soil for best growth.

His studies indicate that at present recommended rates, leaf sprays supply about one pound of actual nitrogen per tree when the necessary amount of spray is approximately 20 gallons. (This is in three applications at the rate of five pounds of urea for each 100 gallons of water). In many cases one pound of nitrogen per tree is not enough for best growth in large trees. Higher concentrations injure the leaves and only part of the nitrogen will stay on the leaves. From one-third to one-half of the spray is retained by the foliage.

Harley points out that application of nitrogen in leaf sprays has several advantages:

(1) It saves labor. Growers in areas where sprays are required for the control of insect and fungus diseases can add urea to the pest control sprays. The schedule for urea sprays begins with an application when the tree is in the calyx or petal-fall stage. The second and third sprays are usually applied at subsequent 10-day intervals. Late spraying with urea appears not to be advisable as it may result in poor fruit color.

(2) Urea penetrates apple leaf tissues rapidly. About 85 per cent of the urea which stays on the leaf, is

absorbed within 50 hours after the spray is applied.

(3) Cost of nitrogen in this form is about on a par with that of other forms. Harley estimates that urea in the leaf sprays costs about 6 cents per mature tree for each application.

(4) It is likely that apple trees, especially those in sodded orchards, will show increased growth in succeeding years as they benefit from the drip and run-off of sprays applied to the leaves and absorbed by the roots. However, this gain seldom shows up the first year.

(5) Trees suffering from root injury will probably recover more rapidly if aided by nitrogen taken directly into the leaves in the spring.

IOWA RESEARCH ON PHOSPHORUS

Iowa State College has become the center of phosphorus research relating to soils and fertilizers for the north central states according to recent news releases.

One phase of the work is under way through a regional cooperative project with the Bureau of Plant Industry, Soils and Agricultural Engineering, United States Department of Agriculture. The agricultural experiment stations of Iowa, Ohio, Indiana, Michigan, Wisconsin, Illinois, Minnesota, Missouri, North Dakota, South Dakota, Kansas and Nebraska are also cooperating.

Emphasis will be on factors affecting the efficiency of different phosphate fertilizers and on the chemical reactions of phosphates with soils

in relation to the residual value of the fertilizers.

In addition to the cooperative program now in operation, a contract has just been signed between the Tennessee Valley Authority and the college whereby the college will receive \$6,000 during the present fiscal year to study the relative efficiency of various experimental fertilizers under soil and climatic conditions typical of the north central region. Similar sums are expected to be provided by TVA each year through 1954.

The Muscle Shoals plant of TVA is considered a national laboratory for research in fertilizer processing, and it wants to test its products in various areas of the country.

In selecting Iowa as the center of research in the north central states, TVA pointed out that the Iowa Agricultural Experiment Station already has shown considerable interest in TVA phosphates, and has conducted experiments with these fertilizers. Iowa is particularly well suited for such work because it has considerable acreage of acid prairie soils as well as calcareous soils. TVA also took into consideration the fact that Iowa already is headquarters of the regional phosphorus research project in which the north central states and the USDA are participating.

In Iowa the TVA research will include field experiments as well as laboratory and greenhouse tests. Iowa State College will establish long-term projects at its outlying experimental farms and will work with some individual farmers on short-term projects.

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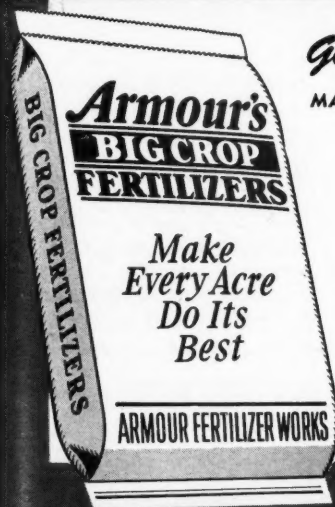
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NFA Convention (Continued from page 8)

York, N. Y.; M. S. Hodgson, Empire State Chemical Co., Athens, Ga.; Tom L. Jones, Arkell & Smiths, Columbus, Ohio; R. S. Rydell, Swift & Co., Plant Food Div., Chicago, Ill.

COMMITTEE FOR LADIES' GOLF EVENTS

Chairman: Mrs. J. E. Totman, care Summers Fertilizer Co., Baltimore, Md.; Mrs. J. P. Brinton, Jr., care Hydrocarbon Products Co., New York, N. Y., (non-golfers' putting); Mrs. Frank R. Dulany, care Southern States Phosphate & Fertilizer Co., Savannah, Ga. (golfers' putting); Mrs. A. Norman Into, care International Minerals & Chemical Corp., Chicago, Ill.; Mrs. E. M. Kolb, care American Potash & Chemical Corp., New York, N. Y.

TENNIS COMMITTEE

Chairman: George H. Dunklin, planters Fertilizers Co., Pine Bluff, Ark.; George N.

Burns, Chase Bag Co., Chicago, Ill.; James E. Cope, The Reliance Fertilizer Co., Savannah, Ga.; James C. Totman, Summers Fertilizer Co., Bangor, Maine; Mrs. Garland D. Glover, care French Potash & Import Co., New York, N. Y.

BRIDGE COMMITTEE

Chairman: Mrs. Weller Noble, care Pacific Guano Co., Berkeley, Calif.; Mrs. R. D. Martenet, care E. Rauh & Sons Fertilizer Co., Indianapolis, Ind.; Mrs. John A. Miller, care Price Chemical Co., Louisville, Ky.; Mrs. W. S. Tyler, care Red Star Fertilizer Co., Sulphur Springs, Texas.

HORSESHOE PITCHING CONTEST COMMITTEE

Chairman: A. A. Schultz, Reading Bone Fertilizer Co., Reading, Pa.; C. R. Martin, The Miami Fertilizer Co., Xenia, Ohio; H. A. Parker, Sylacauga Fertilizer Co., Sylacauga, Ala.

At 10:00 a.m. on Monday, June 12, there will be an open meeting of the Plant Food Research Committee and all of those attending the convention are cordially invited.

This meeting will feature a special presentation by the Pasture Subcommittee on the general subject, "The Fertilizer Industry and Grassland Farming." Participants will include James A. Naftel, Agronomist, Southern Division, Pacific Coast Borax Company; Malcolm H. McVickar, Chief Agronomist, The National Fertilizer Association; Fielding Reed, Southern Manager, American Potash Institute, and Borden S. Chronister, Chief Agronomist, Southern Division, Barrett Division, Allied Chemical & Dye Corporation.

In addition there will be subcommittee reports as well as a business meeting of the Committee.

Mississippi Phosphorus Tests on Truck Crops

For many years the truck farmers of the rich lands of Ole' Mississippi have used large amounts of commercial fertilizer with a high phosphate percentage. Recently the Soils Testing Laboratory at State College became interested in the continued increase of available phosphorus in these truck farm soils, as indicated by samples analyzed.

To determine the effects of different levels of this phosphorus on various yields, three tests were set up on pepper and cabbage. Two were on the bottom land and one was run on a clay loam hill, and

the three fields have been highly fertilized and grown in vegetables for many consecutive years.

In all treatments the amounts of nitrogen and potash were held at a five per cent rate. The amount of available phosphorus varied from zero to 15 per cent, with increments of five per cent. All pepper plots received these treatments at the rate of 1000 pounds per acre and the cabbage plots received the treatment at the rate of 1500 pounds per acre. Both pepper and cabbage plots were side dressed with 32 pounds of nitrogen. The pepper plots in

both tests were irrigated once. The varieties that were used include Oakview Wonder and California Wonder. The cabbage test was planted to the Round Dutch variety.

At regular intervals, checks were made to determine any visible difference between the treatments. At no time were any symptoms of nutrient deficiencies detected in any treatment, and all plants seemed to make normal growth.

Little Difference In Yield

Pepper yields obtained from the use of a 5-5-5 fertilizer were equal to yields obtained from the use of a 5-10-5 fertilizer on both farms. The yield from the 5-5-5 analysis was equal to that obtained from a 5-15-5 on Farm No. 1, and was not significantly less than 0-15-5 on Farm No. 2. The difference occurring between treatment 5-0-5 and 5-15-5 did approach significance. No difference occurred in size, shape, and thickness of wall of fruits in any treatment on either farm.

The yield from any one treatment was not significantly better than any other treatment, and plots receiving 5-5-5 were equal to plots receiving 5-10-5. No significant difference occurred in weight per head in any treatment and the general appearance was equal in every case.

Conclusion

Although the results for this test are for one year, the wide variation of soil types and the duplication of the pepper test plus the same general trend obtained from the cabbage test would indicate that the use of a 2-1-2 or 1-1-1 ration such as 10-5-10 or 8-8-8 fertilizer is advisable for these two crops when planted on soils that have been highly fertilized with a 1-2-1 ratio such as 4-8-4 or 5-10-5 for many consecutive years. The fertilizer should be applied in sufficient quantity, however, to supply the recommended amounts of nitrogen and potash for cabbage and pepper.

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UNITED STATES POTASH COMPANY, Incorporated, 30 Rockefeller Plaza, New York 20, N. Y.

Insecticides

(Continued from page 9)

agricultural usage. It has some specific characteristics but in general nature is similar to DDT and DDD.

Benzene Hexachloride

About the time DDT was being used in the United States during the recent war, BHC (benzene hexachloride or hexachlorocyclohexane) was rediscovered and developed as an insecticide in England. BHC became available in this country after the war. Because of its three-way action of stomach, contact poison and vapor action poison, BHC has excellent insecticidal properties and is effective against a wide range of insects. However, as it is a material of mixed isomers, it has a heavy, musty odor imparted to it by certain of the undesirable isomers. Some difficulty was encountered with the musty odor flavoring food products and the pure gamma isomer in BHC, which was found to be the insecticidal isomer, has since been isolated in pure form. This 99% pure form is now being marketed as lindane.

Toxaphene

Toxaphene (chlorinated camphene) has been introduced in recent years and developed along certain lines. It has been found to be generally useful in control of grasshoppers, crickets, cutworms infesting various fruit tree and vegetable pests. Uses in other lines are also being developed, such as control of thrips, leaf-miners and red spider on fruit trees and possible ornamentals. It has had large usage on cotton but not extensive usage on fruit or vegetable crops. In acute

toxicity it is about four times as toxic as DDT. To date there has been practically no usage of this product on fruits or vegetables.

Chlordane

Chlordane (chlorinated methanotetrahydroindane) was introduced about the time of the various others and has also been found useful in controlling grasshoppers, crickets, roaches and ants. Chlordane is especially outstanding in control of ants (also roaches) and has been used widely for that purpose in commercial pest control operations. Chlordane has also been used to some extent in agricultural control of grasshoppers and as a dust and bait for vegetable crop protection. The acute toxicity of chlordane is rated at about one-half that of DDT.

Rotenone

Rotenone is one of the older insecticides of botanical origin, but it is still used today to some extent. It is chiefly used for control of Mexican bean beetles, to some extent pea aphids, Ox Warble on cattle and a few other uses. Use of rotenone in the United States has increased in the past five years. The records show 4,000,000 pounds were used in 1944 and 6,000,000 pounds were used in 1949. Rotenone is a quick and effective stomach and contact poison against such insects as thrips and certain caterpillars; it has a high safety factor in that it does not leave poison residue on treated plants. These various factors have helped to keep it in the insecticide picture.

Nicotine

Nicotine is another botanical insecticide which has been used for

many years. It is still used as an aphicide to quite an extent in agricultural pest control work. Introduction of organic insecticides has cut down its use to some extent, but it is nevertheless in the picture sufficiently to warrant mention as a present-day insecticide. Nicotine, of course, is poisonous in nature, approaching the poison range of TEPP. It, therefore, has to be used cautiously.

Work in Progress

The recent introduction of organic insecticides in the insecticide industry, has kept agricultural chemical manufacturers on their toes as far as test, development, and investigational work on these new insecticides has been required. Work on many of them is still progressing and more information will be available in the months to come, as new facts concerning their use are brought out by experiment stations, commercial and other investigational workers.

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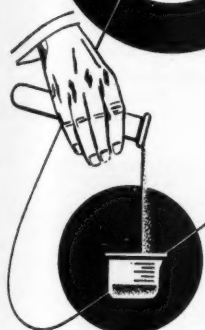
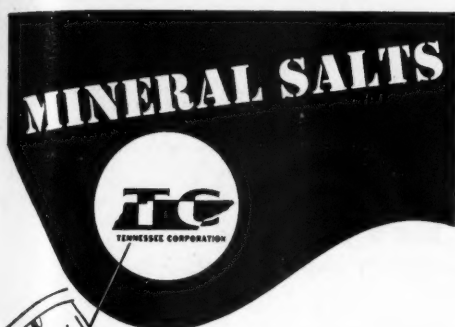
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FERTILIZER INDUSTRY
ONE HUNDRED YEARS YOUNG**

*I*f pride in achievement is justifiable, the Fertilizer Industry may feel justly proud of its long record of assistance to American agriculture. During its first century of existence great progress has been made.

The coming century presents a many sided challenge:

1. Increasing Populations.
2. Increasing Standards of Living.
3. Increasing Economic Problems.
4. And above all, an Increasing and

**Urgent Demand for the Preservation of the Fertility
and Productivity of our Greatest Heritage—The Good Earth.**

We pledge our best efforts to the
attainment of all constructive objectives.



POTASH COMPANY OF AMERICA
Carlsbad, New Mexico

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IT'S **LION** FOR ONE-STOP SERVICE

for nitrogen

Lion's recently expanded Chemical Division is now ready to supply all your nitrogen requirements!

LION Anhydrous Ammonia

Use of this material for direct application to the soil has been proved to be both economical and highly efficient in crop production. Accurate chemical control throughout the process of manufacture assures uniformity and high quality in this basic Lion product. Aqua Ammonia, now being used in certain areas for direct application, is also available.

LION Nitrogen Fertilizer Solutions

Made specifically for the manufacturing of mixed goods. This product supplies both ammonia nitrogen and nitrate nitrogen in desirable ratios. Easily handled, and available in three types, designed for varying weather conditions and formula requirements, for the production of fertilizers that cure rapidly, store well and drill efficiently.

LION Ammonium Nitrate Fertilizer

In great demand because of its low unit cost (33.5% guaranteed minimum nitrogen) and superior qualities. The improved spherical white pellets are freer flowing and have increased resistance to caking, with better storing qualities.

LION Sulphate of Ammonia

Use of this material enables the manufacturer to produce the high-analysis mixed fertilizers which are increasingly in demand by farmers. In the form of large white crystals which flow freely and resist caking in storage. Shipped in bulk and in 100-pound bags.

Technical advice and assistance to fertilizer manufacturers in solving their manufacturing problems is available for the asking. Just write:

"Serving Southern States"

LION OIL COMPANY

**Chemical Division
EL DORADO, ARKANSAS**

